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This Medical Mishap Kills 33,000 Americans a Year — And it's totally preventable

by Art Kanowitz MD

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It was a summer evening like most others for 13-year-old Drew Hughes. He was skateboarding with some friends when he fell, hitting his head. He was taken to the hospital by ambulance and when he arrived in the ER, he was awake, alert, and appeared to be fine. For Drew's safety, the doctor ordered a CT scan of his brain where evidence of a possible basilar skull fracture was identified. To be sure, the decision was made to transfer Drew to the Level I trauma center and to place a breathing tube for his safety during the long transfer by ambulance.

Drew, however, did not survive the transport. His breathing tube had accidentally been removed and not replaced properly. His oxygen levels fell and his heart rate slowed. By the time they diverted to a nearby hospital, it was too late. Drew suffered anoxic brain injury and on June 29, 2013, he lost his life.

This tragic patient safety event, known as unplanned extubation (UE), is not an isolated event. UE, the unplanned, uncontrolled removal of a patient's life-sustaining breathing tube, occurs in more than 121,000 adult patients every year in the U.S. alone, and is associated with more than 33,000 adult deaths.

Unplanned extubation by the numbers

Research by [Paulo Sergio Lucas da Silva, MD, MSc](#), and colleagues revealed that 7.3% of intubated adults in the ICU experience unplanned extubation. This number jumps to 18.2% among neonatal ICU patients. More troubling, however, is the range of unplanned extubation across institutions. For adults, it's from 0.5% to 35.8%, and in neonates it's 1%

to 80.8%. These numbers expose the vast variance amongst hospitals and their ability to prevent unplanned extubation and the need for standardized best practices, procedures, and quality measures.

Though the research and literature clearly points to UE as an all-too-common and preventable issue, it is not being addressed for the grave risk it presents to patients. But the medical industry can't afford to continue to overlook this issue, if not for the number of unnecessary deaths occurring then for the cost burden it is placing on the healthcare system.

There are more than 121,000 UE incidents every year in U.S. adult intensive care units, which not only puts patients in grave danger, it also extends their length of stay in many cases. In adult patients, unplanned extubation extends the average length of stay from 9 to 18 days resulting in \$4.9 billion in wasted healthcare costs. In neonates, UE events extend the average stay from 9 to 51 days. And with 80,000 neonatal incidents occurring each year, there's an additional wasted expenditure of \$2.9 billion.

This can no longer be a "cost of doing business." Institutions must establish unplanned extubation as a key performance measure and start tracking UE if we are to improve it.

Inspiring a movement

There have been some steps in the right direction. In fact, Drew's story inspired a movement -- a patient safety movement that is taking direct aim at these preventable complications and thus preventable deaths.

Earlier this year, medical professional societies, patient safety, and quality improvement organizations formally joined forces to create the Coalition for Unplanned Extubation Awareness and Prevention. The goal of the coalition, which is led by the Society for Airway Management, the Airway Safety Movement, and the Patient Safety Movement Foundation, is to reduce the incidence of preventable deaths from unplanned extubation.

Under the "Campaign to Zero," coalition members are raising awareness about UE and working to get hospitals on board with institutionalizing standardized policies and procedures as well as tracking and implementing quality measures. Most recently, the coalition approved the Patient Safety Movement Foundations' [Actionable Patient Safety Solutions](#) (APSS) #8B as a guide for creating and sustaining safe practices for unplanned extubation in medical facilities. The APSS #8B includes checklists, action and technology plans, protocols, as well as measurement outcomes to track and reduce UE incidents.

Still, because UE is currently not a key performance measure mandated by the Center for Medicare and Medicaid Services (CMS), many hospitals do not track it. But signs are

pointing to that changing in the near future. It would behoove healthcare stakeholders to adopt best practices and quality measures now -- not just to prepare for compliance and reduce the drain on hospital finances, but to save lives.

Taking action towards zero preventable harm

To move towards zero preventable harm and the incidence of UE-related deaths, there are three key steps hospitals can take now:

1. Take assessment of your UE rate. Conduct an assessment to determine the rate of unplanned extubation in your hospital. Compare your rate to the performance range to determine how much opportunity there is for improvement. Then set goals and create actionable steps to move towards improving that number.
2. Get internal buy-in. Executive leaders must serve as internal cheerleaders and provide the resources necessary to allow quality improvement and safety officers to take aim at eliminating preventable UE-related deaths.
3. Develop and implement a quality improvement initiative. Use the model for improvement (plan-do-study-act) to drive your quality improvement process. Begin documenting UE rates to track performance over time. Create standardized policies and procedures using known best practices such as the Patient Safety Movement Foundation's Actionable Patient Safety Solutions (APSS #8B Unplanned Extubation).
4. Commit to taking aim at zero preventable harm and death from UE. Make a commitment to the Airway Safety Movement and Patient Safety Movement Foundation that your hospital will do its part in eliminating this preventable complication of airway management.

It's time to put an end to preventable deaths, and it will require the collective effort of multiple stakeholders. Patient safety and quality improvement departments must begin to track intubated patient data; providers must become cheerleaders of UE best practices and data tracking; healthcare executives must provide the resources to allow quality improvement and safety officers to eliminate UE-related deaths; and EHR companies must add the unplanned extubation core data set to their software.

It's time to call attention to this pervasive and preventable medical complication that claims so many lives -- and take action. And the time is now.

Art Kanowitz, MD, FACEP, is the former EMS medical director for Colorado's Department of Public Health and now the founder of the [Airway Safety Movement](#).